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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,218	01/05/2006	Motoe Hosoda	126383	4064
25944	7590	06/05/2006		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER BERNSHTEYN, MICHAEL	
			ART UNIT	PAPER NUMBER

1713

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/561,218

Applicant(s)

HOSODA ET AL.

Examiner

Michael Bernshteyn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/19/05, 03/07/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (JP10-309455, machine translation).

Tanaka discloses a fluorine based **surface-active** agent, which is prepared from a copolymer containing an ethylene unsaturated monomer (A) having a fluoroalkyl group and an ethylene unsaturated monomer (B) having a branching aliphatic hydrocarbon group. This fluorine based surface-active agent is used in variety of **coating compositions** having an excellent leveling property, which are obtained from a copolymer comprising the above monomers (abstract).

With regard to the limitations of claims 1, 2, 6-8 and 12, Tanaka discloses an ethylene unsaturated monomer (A) having a **fluoroalkyl group**, which is preferably **fluoroacrylate or fluoromethacrylate** (page 2, [0014], [0030-0035]). This monomer is responsible for reducing the dynamic **surface tension** used as the index of the leveling nature to the coating approach accompanied by high shearing force. If this component is missing, the engine performance will become inferior and the homogeneity of a coat and smooth nature will be lacked as a result (page 8, [0037]).

This group is readable as monomer (A) in instant claim 1.

Tanaka discloses an ethylene unsaturated monomers (C), which include a polyoxyalkylene group-containing monomers, such as polyethylene glycol acrylate,

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polyethylene glycol methacrylate, polypropylene glycol acrylate, polypropylene glycol methacrylate, etc. It may use two or more kinds for coincidence (pages 16-17, [0057]-[0061]). This group is readable as monomer (C) in instant claim 1.

Tanaka discloses an ethylene unsaturated monomer (D), which has two or more unsaturated bonds in one molecule. It can be polyethylene glycol, polypropylene glycol, copolymer of polyethylene glycol, polypropylene glycol and ethylene oxide, 1,6-hexamediol diacrylate, etc. (pages 17-18, [0065]).

Tanaka discloses an ethylene unsaturated monomer (E), which is very important in coating compositions for improvement in the further antifoam and advanced leveling nature. Such monomers include **styrene**, acrylonitrile, acrylic acid, methacrylic acid, maleic acid, ethyl, propyl and **butyl acrylates** and methacrylates, **octyl**, dodecyl and **stearyl acrylates** and methacrylates, **2-hydroxyethyl acrylate**, 2-hydroxyethyl methacrylate, 2-hydroxypropyl acrylate, **2-hydroxypropyl methacrylate**, etc. In general, alkyl ester of carbon numbers 1-18 of an acrylic and methacrylic acid can be used. It may use two or more kinds for coincidence (page 18, [0070]-[0073]). This group is readable in instant claim 1 as monomer (B), which includes butyl acrylates and stearyl acrylates, monomer (C), which includes 2-hydroxyethyl acrylate, 2-hydroxyethyl methacrylate, 2-hydroxypropyl acrylate and 2-hydroxypropyl methacrylate, and monomer (D), which includes styrene.

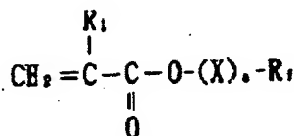
Tanaka discloses that the weight ratio of (A)/(B)/(C)/(D) = 5-50/80/95/0-30 and the weight ratio of [(A)+(B)+(C)+(D)]/(E) = 20/80 which is clearly within the claimed range (page 18, [0067], page 19, [0074]).

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Therefore, all the limitations of instant claim 1 and dependable claims 2, 6-8 and 12 are expressly met by Tanaka.

With regard to the limitations of claims 3 and 9, Tanaka discloses that in order to keep good compatibility between the compounds and to demonstrate post-processing nature, such as advanced leveling nature, antifoam, recoatability and development it is desirable to have the copolymer with number-average molecular weight 1,000-200,000, which is within the claimed range (page 20, [0081]).

With regard to the limitations of claims 4 and 10, Tanaka discloses that preferably to use a fluorine-substituted alkyl (meth)acrylates having the following formula:



wherein  $\text{R}_1$  is H,  $\text{CH}_3$ , CL, or F; X is a divalent connection radical (for, example  $(\text{CH}_2)_n$ ); n is the integer of 1-10, and  $\text{R}_f$  is **perfluoroalkyl group with 1-20 carbon atoms**, which is within the claimed range (page 3, [0015-[0018]).

With regard to the limitations of claims 5 and 11, Tanaka discloses that the above copolymers of a fluorine system can be obtained by block copolymerization in the presence of photoinitiators, photosensitizers and heat (page 19, [0079]).

With regard to the limitations of claim 13, Tanaka discloses that the coating material may further comprise without any limit synthetic resin, such as polyester resin, epoxy resin, vinyl resin, **acrylic resin**, polyurethane resin, etc. (page 20, [0086]).

**Conclusion**

Other references are considered pertinent to the Applicant disclosure but not cited in this office include U.S. Patents 6,130,298, 4,732,941, 5,798,406, 5,346,949, 5,206,298, 5,700,576, U.S. Patent Application Publications 2005/0004300 and 2006/0058458 are shown on the Notice of References Cited Form (PTO-892)


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn  
Patent Examiner  
Art Unit 1713

MB  
05/22/2006

  
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